

Prevalence of Gastroesophageal Reflux in College Age Athletes

The Problem

- Gastroesophageal Reflux disease (GERD) has a prevalence rate of 59%, with 15-20% of adults complaining of weekly symptoms
- The age of these patients varies from 22-76 (mean of 56)
- Clinical symptoms of GERD are heartburn, regurgitation, belching and bloating
- GERD can have serious medical consequences such as esophagitis, Barrett's esophagus and adenocarcinoma or complicate other conditions such as asthma
- GERD can also masquerade as chest pain, leading to costly medical workups and creating patient and provider anxiety
- Several studies show that vigorous exercise can induce GERD (age range 22-52)
- There have been no studies to document the prevalence in the college age athlete, or even the college age person (ages 18-22)
- No studies on the perceived impact of performance
- Exercise studies only looked at running, rowing, bicycling, and weight lifting. The specific hypotheses of this study are:

The Hypotheses

- 1a. There is an equal or comparable amount of clinically symptomatic GERD in the college athlete compared with an age-matched cohort based on positive responses to a symptom-based questionnaire.
- 1b. There is an equal or comparable amount of clinically symptomatic GERD in the college age person compared to average adult population (Mean age 56).
2. Perceived performance is negatively affected by GERD in the symptomatic athlete.

3. There is a positive relationship between chest pain symptoms and GERD based on self-reported symptom based questionnaire

Specific Goal of this Study

To demonstrate that there is a significant amount of clinical GERD in the college-age athlete, thereby justifying future research to achieve the long-term goal.

Long Term Goal

The long-term objectives are to reduce or relieve the morbidity that GERD confers on the active population.

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Methods

- Varsity Student Athletes at Local Division 1 University
- Comparison group of non-Varsity Students at same University
- One-page Anonymous Survey completed in one sitting (attached)
- Survey was approved by USUHS IRB and the University's Research Review Board.

Preliminary Data

- All Surveys administered and monitored by the researcher.
- Surveys Collected & Analyzed
- Mean Age 19.85 (range 17-31)
- 51.7% Female 44.4% Male
- 61.6% "Athlete" (= Played Varsity Sport)
- 38.4% Non-Athlete
- Race: White 47% African-American 25.2% Asian-Pacific 8.6%, Hispanic, Non-White 6%, Other 8.6%
- BMI 17.2-39.5 (Mean 22.5)
- 58.3% No GERD Symptoms
- 39.7% One or More GERD Symptoms

Survey Instrument

Age _____ Male/Female (Circle Correct One) Race(Ethnicity) _____
Weight _____ Height _____ Varsity Sport Yes/No if Yes list _____

1. How many days a week do you exercise longer than 20 minutes?
0 1 2 3 4 5 6 7 (Circle One)
2. a. What type of activity do you do for aerobic exercise?
b. How many days a week? 0 1 2 3 4 5 6 7 (Circle One)
c. How long(# of minutes or hours) or far(#miles)?
3. How many days a week do you lift weights? 0 1 2 3 4 5 6 7 (Circle One)
4. a. Are you taking any medications now (including over the counter medication)?
b. What are they?
c. How long have you been using each particular one?
5. a. Are you taking any nutritional supplements (i.e. Creatine, Rip Fuel etc)?
b. What are they?
c. How long have you been using each particular one?
6. Do you ever get symptoms of heartburn, belching, regurgitation(food coming back up), bloating or chest pain?(Circle all that apply)
If you've answered **NO**, please **STOP**. If you've answered **YES**, please go on to Question #7.
7. a. How many times a day? 1 2 3 more than 3 (Circle One)
b. How many days a week? 0 1 2 3 4 5 6 7 (Circle One)
8. a. Do these episodes occur only at rest, only at exercise or with both? (Circle One)
b. If both, please estimate the percentage(%) of time they occur at rest and at exercise.
Rest ____% Exercise ____%
9. Have you ever been diagnosed with Gastroesophageal Reflux Disease (GERD) or Esophagitis by a Medical Provider?
10. a. If your symptoms occur at exercise, are they worse during training, competition or both?
(Circle One) {If symptoms do not occur at exercise please go to next question}
b. Do you feel like your exercise performance is affected by your symptoms?
11. a. Do you notice a change in your symptoms depending on your diet? Yes or No
b. If yes, please comment.
12. How much caffeine do you consume per day?(i.e. cups of coffee, cans of soda, or supplements) _____
13. a. On average, how many alcoholic drinks per week do you consume?
1 drink== 12oz beer, 5oz wine, one shot of liquor(straight or mixed)
b. In the last month, how many times have you consumed five or more alcohol drinks in one sitting?
These answers are anonymous so please be truthful
14. Do you smoke cigarettes and if so how much? _____

Preliminary Conclusions

There appears to be a comparable amount of GERD in the college age athlete (39.1%) and college age non-athlete (42.8%). This difference is not significant.

There appears to be a comparable amount of GERD in the college age population (39.7%, mean age 19.85 years) versus the adult population (59%, mean age 56).

Although there were only 26 responses to question #10b (decreased performance because of symptoms), 26.9% of participants